

### **Remarks**

Claims 1-8 and 10-20 are pending in the present application and are rejected.

Claim 9 is cancelled.

Claims 4, 13 and 20 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b).

The title of the present application is changed to “MULTI-HEAD DATA STORAGE DEVICE WITH PLURAL DATA CHANNELS PER HEAD”

Claim 1 is amended to replace “each read/write head of said plurality of read/write heads is aligned to read or write data from or to a corresponding storage band of said plurality of storage bands” with “each read/write head is uniquely associated a single storage band with a such that the read/write heads are alignable with a single mode of operation.” The antecedent basis for this amendment is found in the Specification on p. 10, ll. 21-26.

Claim 10 is amended to include the limitation “ with each read/write head being uniquely associated with a single storage band.” The antecedent basis for this amendment is found in the Specification on p. 10, ll. 21-26.

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a).

Applicant has amended claims 1 and 10 to remove the reference to and associated description of the position control unit. Accordingly, the present rejection is now moot.

### ***Specification***

The Examiner objects to the title of the application. Accordingly, the title of the present application is changed to "MULTI-HEAD DATA STORAGE DEVICE WITH PLURAL DATA CHANNELS PER HEAD".

***Rejections under 35 U.S.C. §102***

Claims 1-2, 6-8, 10-11 and 16-18 are rejected under 35 U.S.C. §102(b) as being anticipated by Siebert (US 3,614,342).

Applicants traverse the present rejection for the following reasons. Independent claims 1 and 10 have been amended to clarify the methodology of the present invention in obviating the need for coarse adjustment. Claim 1 is amended to state that "each read/write head is uniquely associated a single storage band with a such that the read/write heads are alignable with a single mode of operation." Similarly claim 10 is amended to state that "with each read/write head being uniquely associated with a single storage band." The Specification explains the utility of this configuration as follows:

In other words, in accordance with the present invention, providing a read/write head for each read/write band on a magnetic tape obviates the conventional need for two positioning modes (both coarse and fine positioning), and also for coarse position actuators.

Specification on p. 10, ll. 21-26.

Siebert does not disclose a storage system in which each storage band is associated with a read/write head. Figure 2 is reproduced below for the convenience of the Examiner:

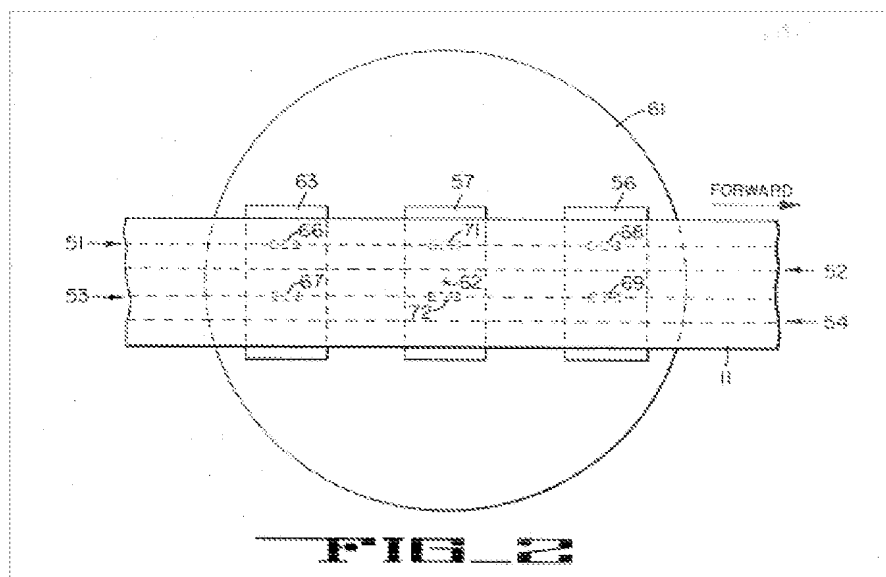
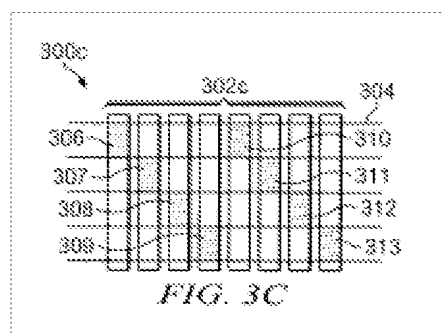


Figure 2 clearly shows tracks 51, 52, 53, 54. As depicted in this figure, tracks 52, 54 do not have any associated heads. Therefore, tracks 52, 54 can only be read by coarse adjustment of heads 66, 67, 68, 69, 71, 72 in that a relatively large adjustment must be made in switching between tracks. Advantageously, the present invention does not require such a large adjustment since each

The following figure is exemplary of the storage system of amended claims 1 and 10:



Magnetic tape 304 includes four storage bands. From figure 3C we observe that each of heads 306, 307, 308, 309, 310, 311, 312, 313 is uniquely associated with a single storage band thereby avoiding the need for coarse adjustment in which a head moves from one band to another.

Accordingly, claims 1-2, 6-8, 10-11 and 16-18 are allowable under 35 U.S.C. §102(b) over Siebert.

Claims 1-3, 5-8, 10-12 and 14-19 are rejected under 35 U.S.C. §102(b) as being anticipated by Draaisma et al. (US 5,966,276).

The present invention is also allowable over Draaisma for similar reasons set forth above. Draaisma also fails to disclose a storage configurations in which each read/write head is uniquely associated with a storage band. It should first be pointed out that only Figure 7 of Draaisma discloses a configuration which uses read/write heads. The other embodiments of that reference are directly only to read heads or write heads. Figure 7 shows that a given read/write head is associated with more than one data storage track. Figure 7 is reproduced below for the convenience of the Examiner:

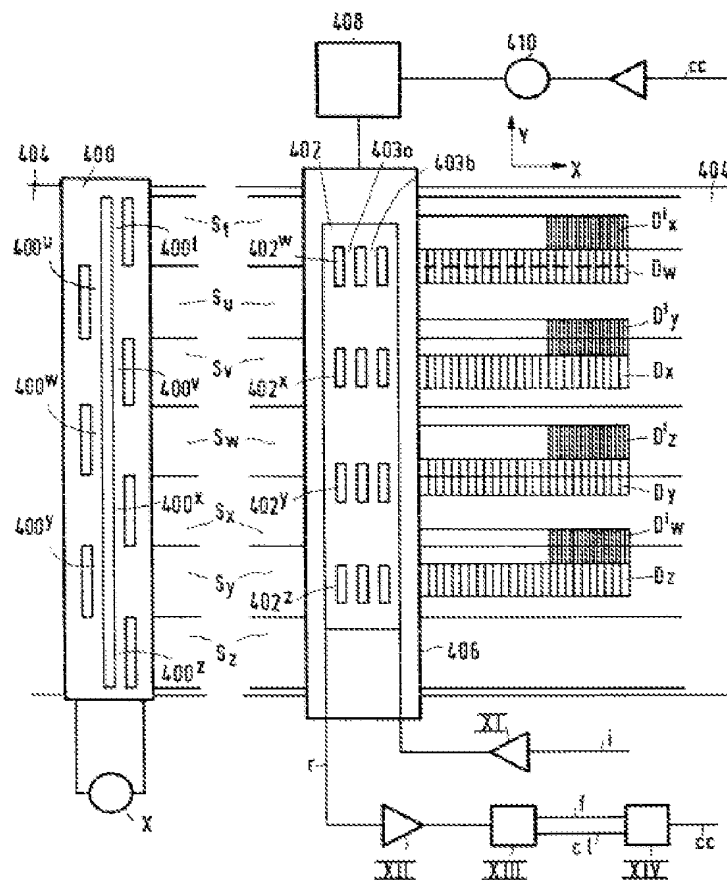


FIG. 7

Inspection of Figure 7 shows tracks  $D_w$ ,  $D_x$ ,  $D_y$ ,  $D_z$ ,  $D'_x$ ,  $D'_y$ ,  $D'_w$ , and  $D'_z$ . Heads 402<sub>w</sub>, 402<sub>x</sub>, 402<sub>y</sub>, 402<sub>z</sub> are also depicted. As set forth above, in order for tracks  $D'_x$ ,  $D'_y$ ,  $D'_w$ , and  $D'_z$  to read or written to, a coarse adjustment is necessary and each head must be associated with more than one track. The following section from Draaisma et al. demonstrates these features:

After writing the information tracks  $D_w$ - $D_z$ , further information tracks, for example the tracks  $D'_w$ - $D'_z$  can be written after moving the displacement unit 406 in the direction Y.

Draaisma et al., col. 8, ll. 56-59

This description from Draaisma et al. clearly shows that a given head is associated with more than one data track.

Accordingly, for at least these reasons, claims 1-3, 5-8, 10-12 and 14-19 are allowable under 35 U.S.C. §102(b) over Draaisma et al.

### **Conclusion**

Applicants have made a genuine effort to respond to each of the Examiner's rejections in advancing the prosecution of this case. Applicants believe that all formal and substantive requirements for patentability have been met and that this case is in condition for allowance, which action is respectfully requested. If a telephone or video conference would help expedite allowance or resolve any additional questions, such a conference is invited at the Examiner's convenience.

Please charge the fees for the two month extension as well as any additional fees or credit any overpayments as a result of the filing of this paper to our Deposit Account No. 02-3978.

Respectfully submitted,

**Richard H. Dee**

By: /James W. Proscia/  
James W. Proscia  
Reg. No. 47,010  
Attorney/Agent for Applicant

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**BROOKS KUSHMAN P.C.**  
1000 Town Center, 22<sup>nd</sup> Floor  
Southfield, MI 48075-1238  
Phone: (248) 358-4400  
Fax: (248) 358-3351